

App. No. 10/526,858
Office Action Dated April 19, 2006

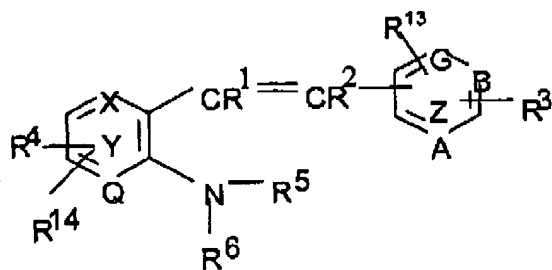
IN THE CLAIMS

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in the application. No new matter is added.

Listing of Claims:

1. (CURRENTLY AMENDED) A pharmaceutical composition for treating malignant tumor, which comprises a compound of the following formula (I) or a pharmaceutically acceptable salt thereof and at least one other antitumor agent selected from the group consisting of ~~platinum compounds, topoisomerase acting agents, microtubule acting agents and antitumor antibiotics~~ cisplatin and carboplatin:



(I)

wherein R¹ and R² are the same or different and each represents hydrogen, alkyl of 1-6 carbon atoms, acyl of 1-6 carbon atoms, cyano, or -COOR (R represents hydrogen or C1-6 alkyl);

R³, R⁴, R¹³ and R¹⁴ are the same or different and each represents hydrogen, alkyl of 1-6 carbon atoms, alkoxy of 1-6 carbon atoms, halogenoalkoxy of 1-6 carbon atoms, acyl of 1-6 carbon atoms, acyloxy of 1-6 carbon atoms, hydroxy, halogen, nitro, cyano, amino,

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acylamino of 1-6 carbon atoms, aminoalkoxy of 1-6 carbon atoms, or morpholinoalkoxy with 1-6 carbon atoms in the alkyl moiety;

R^3 and R^{13} or R^4 and R^{14} may independently combine together to form methylenedioxy;

R^5 represents (1) hydrogen, (2) alkyl of 1-6 carbon atoms which is optionally substituted by halogen, amino, monoalkylamino of 1-6 carbon atoms, dialkylamino of 1-6 carbon atoms, morpholino, alkoxy of 1-6 carbon atoms, or hydroxy, (3) alkenyl of 2-6 carbon atoms which is optionally substituted by halogen, (4) alkynyl of 2-6 carbon atoms, or (5) acyl of 1-6 carbon atoms;

R^6 represents (1) aroyl of 7-11 carbon atoms which is optionally substituted by alkyl of 1-6 carbon atoms, alkoxy of 1-6 carbon atoms, or halogen or (2) arylsulfonyl of 6-10 carbon atoms which is optionally substituted by alkyl of 1-6 carbon atoms, alkoxy of 1-6 carbon atoms, halogenoalkoxy of 1-6 carbon atoms, hydroxy, nitro, or halogen; and

A, B, G, Q and X may be the same or different and each represents N, CH, N→O, or N^+ .

$(R^7)E^-$ (R^7 represents alkyl of 1-6 carbon atoms or arylalkyl of 7-14 carbon atoms; E^- represents a counterion for N^+);

provided that those wherein A, B, and G concurrently represent N, and those wherein A, B, G, Q, and X concurrently represent CH are excluded; and when any of A, B, G, Q and X represents N→O or $N^+-(R^7)E^-$, only either of X or Q on Ring Y and/or only one of A, B and G on Ring Z can represent N→O or $N^+-(R^7)E^-$.

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2. (ORIGINAL) The pharmaceutical composition of claim 1, which comprises the compound of the formula (I) wherein R^1 and R^2 each represents hydrogen; R^3 , R^4 , R^{13} and R^{14} are the same or different and each represents hydrogen, acyl of 2-4 carbon atoms, halogen or hydroxy; R^5 represents hydrogen, alkyl of 1-3 carbon atoms substituted by hydroxy or acyl of 2-4 carbon atoms; R^6 represents phenylsulfonyl substituted by alkoxy of 1-3 carbon atoms; Ring Y is phenyl and Ring Z is 4-pyridyl or N-oxide thereof, or a pharmaceutically acceptable salt thereof.

3. (ORIGINAL) The pharmaceutical composition of claim 2, which comprises the compound of the formula (I) wherein R^1 and R^2 each represents hydrogen; R^3 , R^4 , R^{13} and R^{14} are the same or different and each represents hydrogen, acetyl, fluorine or hydroxy; R^5 represents hydrogen, ethyl substituted by hydroxy or acetyl; R^6 represents phenylsulfonyl substituted by methoxy; Ring Y is phenyl and Ring Z is 4-pyridyl or N-oxide thereof, or a pharmaceutically acceptable salt thereof.

4. (ORIGINAL) The pharmaceutical composition of claim 3, wherein the compound of the formula (I) is a compound selected from the group consisting of:

(E)-4-[2-[2-[N-[(p-methoxyphenyl)sulfonyl]amino]phenyl]ethenyl]pyridine,

(E)-4-[2-[2-[N-[(p-methoxyphenyl)sulfonyl]amino]phenyl]ethenyl]pyridine 1-

oxide,

(E)-4-[2-[2-[N-(2-hydroxyethyl)-N-[(p-methoxyphenyl)-sulfonyl]amino]phenyl]ethenyl]pyridine 1-oxide,

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(E)-4-[2-[2-[N-(2-hydroxyethyl)-N-[(p-methoxyphenyl)-sulfonyl]amino]phenyl]ethenyl]pyridine,

(E)-4-[2-[2-[N-acetyl-N-[(p-methoxyphenyl)sulfonyl]-amino]phenyl]ethenyl]pyridine 1-oxide, and

(E)-4-[2-[2-[N-acetyl-N-[(p-methoxyphenyl)sulfonyl]-amino]phenyl]ethenyl]pyridine, or a pharmaceutically acceptable salt thereof.

5-8. (CANCELED)

9. (CURRENTLY AMENDED) A kit for combined administration for the treatment of malignant tumor, which comprises a preparation containing a compound of the formula (I) as defined in claim 1, or a pharmaceutically acceptable salt thereof, and a preparation comprising at least one other antitumor agent selected from the group consisting of ~~platinum compounds, topoisomerase acting agents, microtubule acting agents and antitumor antibiotics~~ cisplatin and carboplatin.

10-14. (CANCELED)

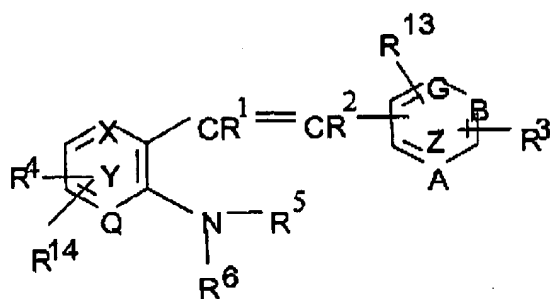
15. (PREVIOUSLY PRESENTED) The method of claim 27, wherein a therapeutically effective amount of a compound of the formula (I) wherein R^1 , R^2 , R^3 , R^4 , R^{13} , R^{14} , R^5 , R^6 , A, B, G, Q and X are as defined above, or a pharmaceutically acceptable salt thereof is administered simultaneously with the other antitumor agent.

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16. (PREVIOUSLY PRESENTED) The method of claim 27, wherein a therapeutically effective amount of a compound of the formula (I) wherein R^1 , R^2 , R^3 , R^4 , R^{13} , R^{14} , R^5 , R^6 , A, B, G, Q and X are as defined above, or a pharmaceutically acceptable salt thereof is administered in combination with the other antitumor agent sequentially.

17-26. (CANCELED)

27. (CURRENTLY AMENDED) A method for treating a patient suffering from malignant tumor comprising administering a therapeutically effective amount of the compound of the following formula (I), or a pharmaceutically acceptable salt thereof in combination with at least one other antitumor agent to the patient in need thereof, wherein the other antitumor agent is selected from the group consisting of platinum compounds, topoisomerase acting agents, microtubule acting agents and antitumor antibiotics cisplatin and carboplatin:



(I)

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wherein R^1 and R^2 are the same or different and each represents hydrogen, alkyl of 1-6 carbon atoms, acyl of 1-6 carbon atoms, cyano, or $-COOR$ (R represents hydrogen or C1-6 alkyl);

R^3 , R^4 , R^{13} and R^{14} are the same or different and each represents hydrogen, alkyl of 1-6 carbon atoms, alkoxy of 1-6 carbon atoms, halogenoalkoxy of 1-6 carbon atoms, acyl of 1-6 carbon atoms, acyloxy of 1-6 carbon atoms, hydroxy, halogen, nitro, cyano, amino, acylamino of 1-6 carbon atoms, aminoalkoxy of 1-6 carbon atoms, or morpholinoalkoxy with 1-6 carbon atoms in the alkyl moiety;

R^3 and R^{13} or R^4 and R^{14} may independently combine together to form methylenedioxy; R^5 represents (1) hydrogen, (2) alkyl of 1-6 carbon atoms which is optionally substituted by halogen, amino, monoalkylamino of 1-6 carbon atoms, dialkylamino of 1-6 carbon atoms, morpholino, alkoxy of 1-6 carbon atoms, or hydroxy, (3) alkenyl of 2-6 carbon atoms which is optionally substituted by halogen, (4) alkynyl of 2-6 carbon atoms, or (5) acyl of 1-6 carbon atoms;

R^6 represents (1) aryl of 7-11 carbon atoms which is optionally substituted by alkyl of 1-6 carbon atoms, alkoxy of 1-6 carbon atoms, or halogen or (2) arylsulfonyl of 6-10 carbon atoms which is optionally substituted by alkyl of 1-6 carbon atoms, alkoxy of 1-6 carbon atoms, halogenoalkoxy of 1-6 carbon atoms, hydroxy, nitro, or halogen; and

A, B, G, Q and X may be the same or different and each represents N, CH, $N \rightarrow O$, or N^+ -

$(R^7)E^-$ (R^7 represents alkyl of 1-6 carbon atoms or arylalkyl of 7-14 carbon atoms; E^- represents a counterion for N^+);

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provided that those wherein A, B, and G concurrently represent N, and those wherein A, B, G, Q, and X concurrently represent CH are excluded; and when any of A, B, G, Q and X represents $N \rightarrow O$ or $N^+-(R^7)E^-$, only either of X or Q on Ring Y and/or only one of A, B and G on Ring Z can represent $N \rightarrow O$ or $N^+-(R^7)E^-$.